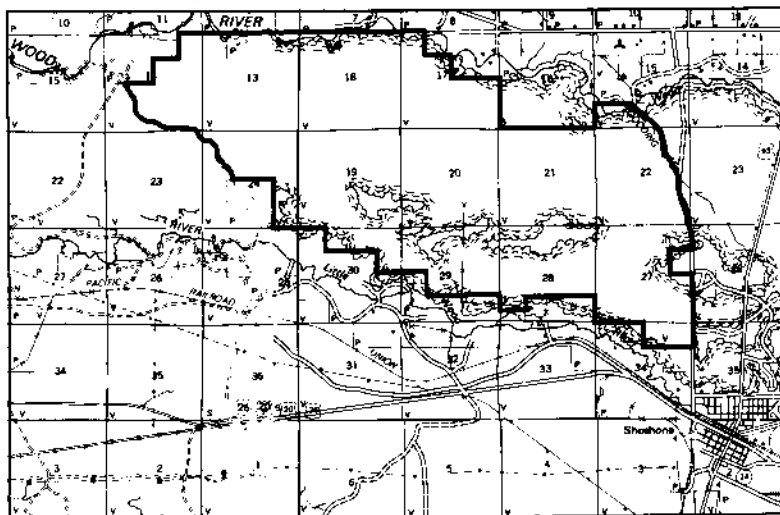


# MAP F-6

R. 16 E.

R. 17 E.

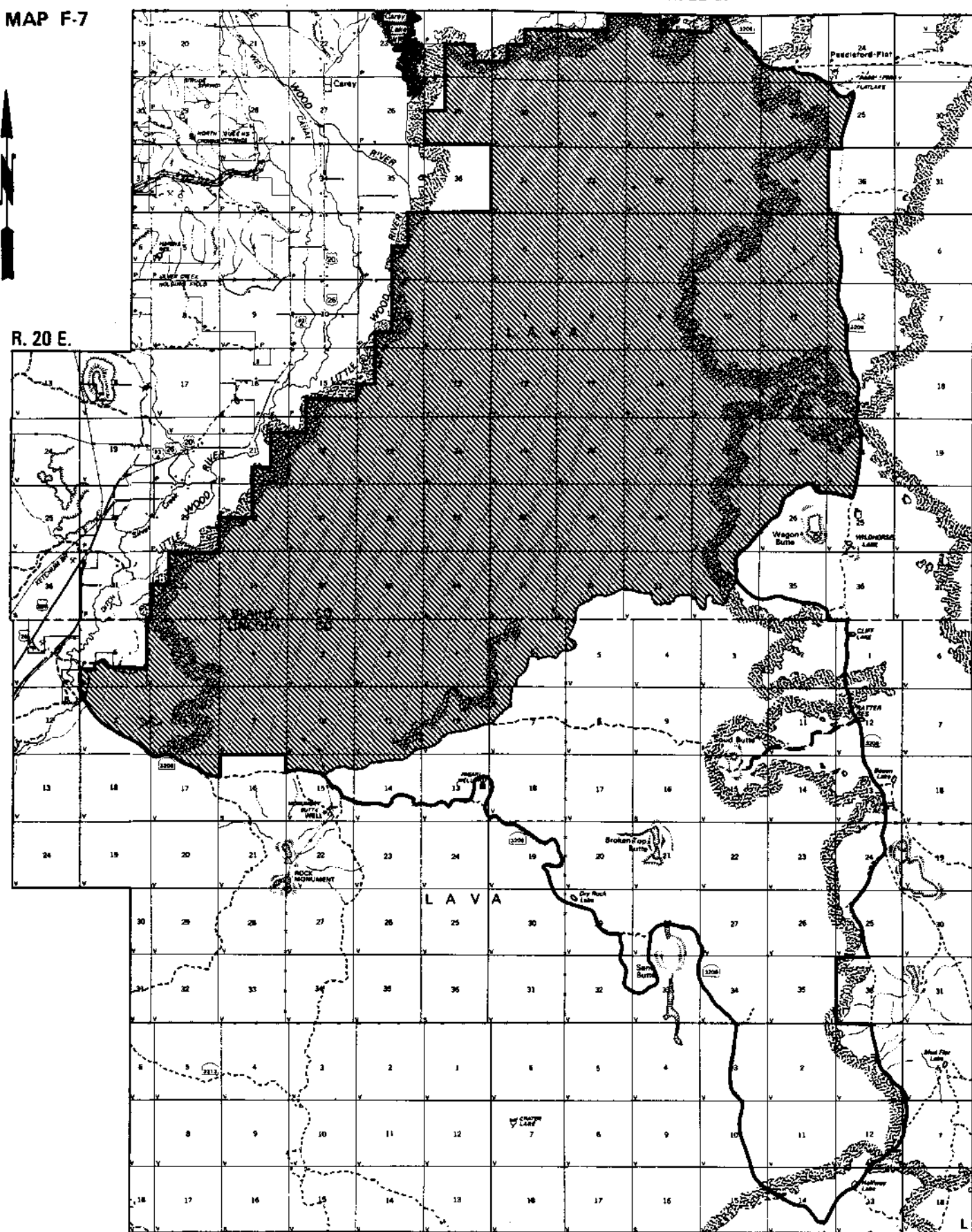


T.  
5  
S.

SHOSHONE  
WSA 59-7

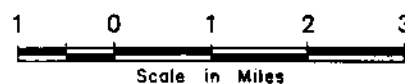
— WSA BOUNDARY





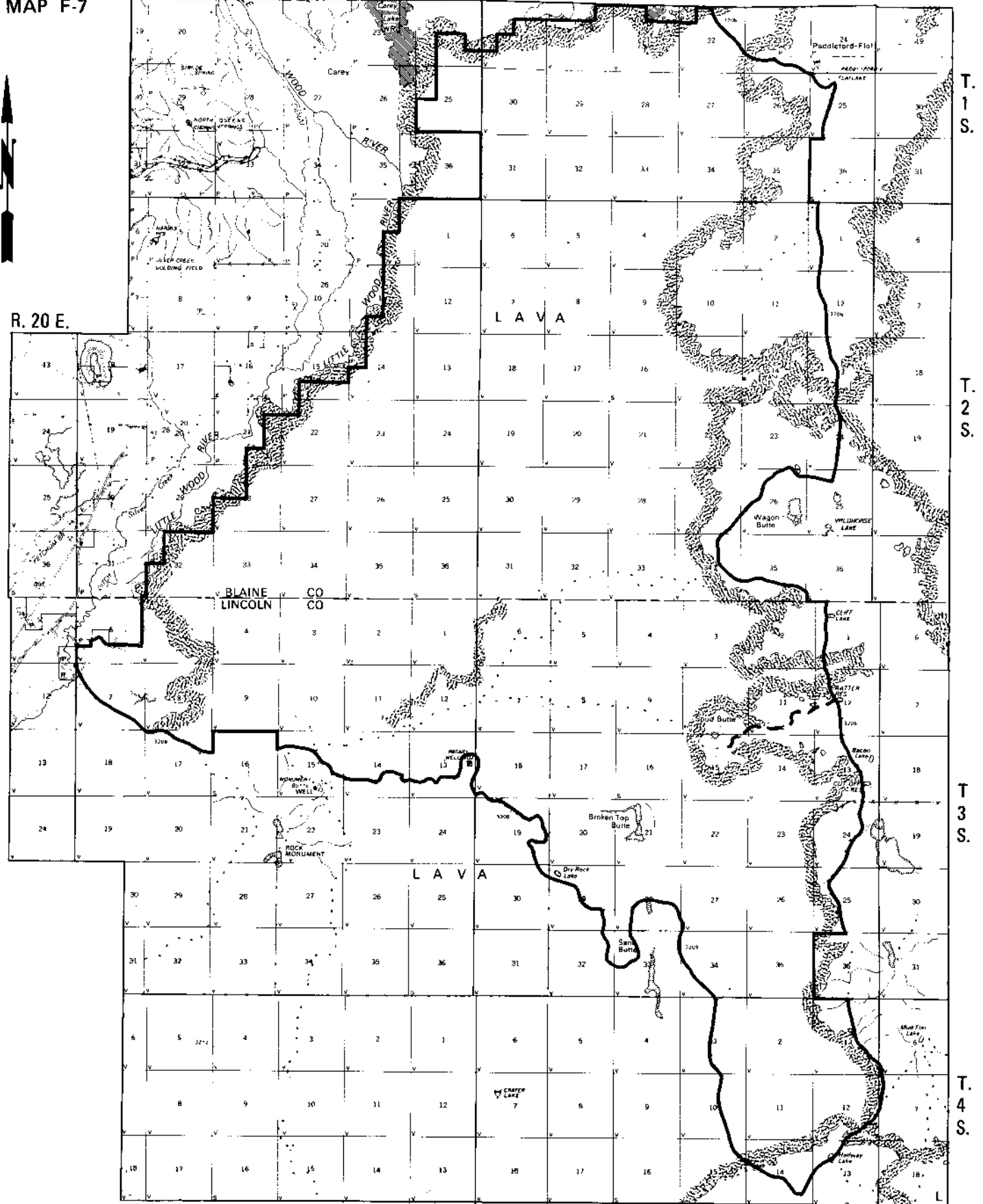
RAVEN'S EYE PARTIAL  
WSA 57-10

- WSA BOUNDARY
- - - - CHERRYSTEM ROAD
- ▨ SUITABLE
- NONSUITABLE





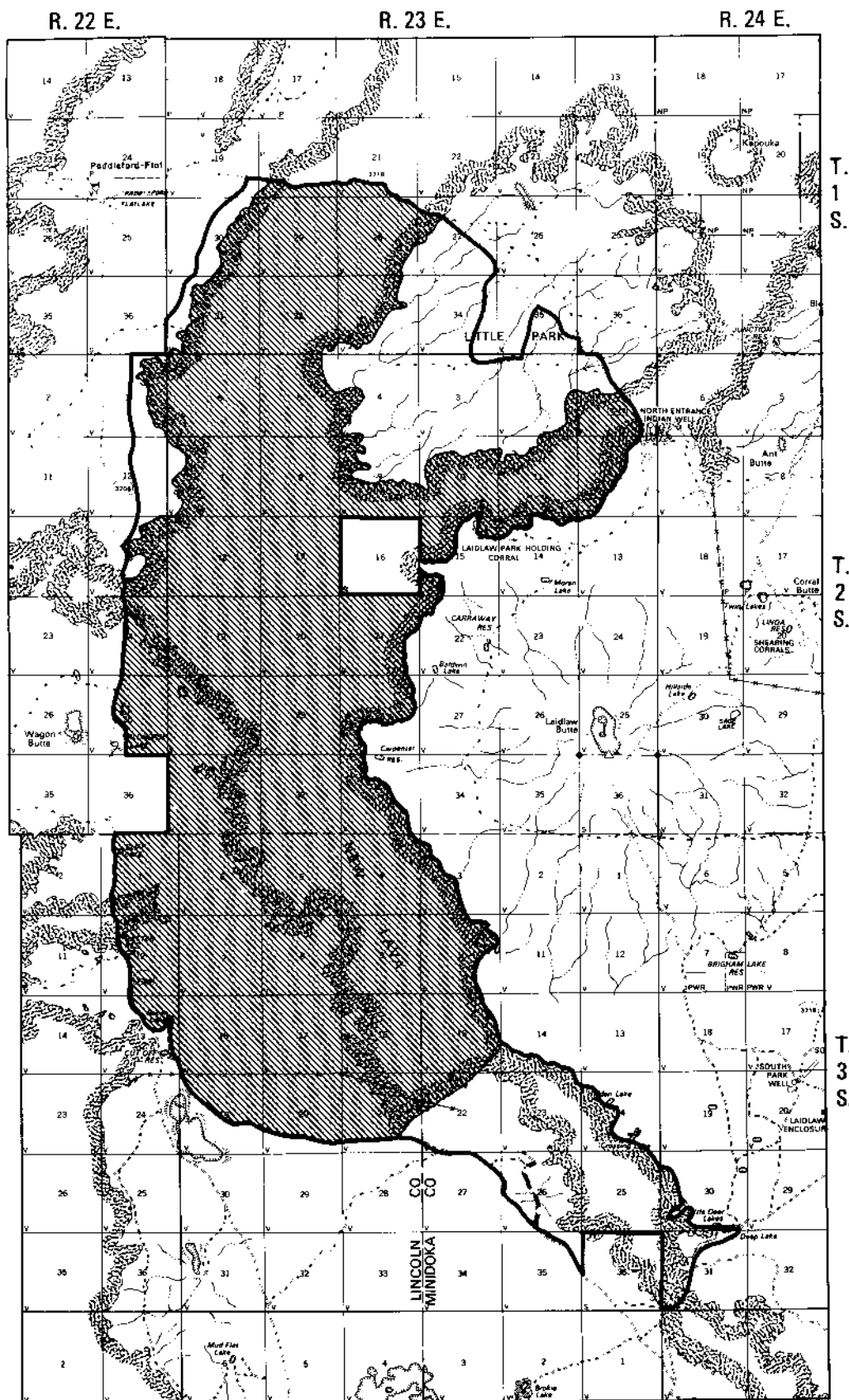
R. 20 E.



- WSA BOUNDARY
- - - CHERRYSTEM ROAD
- ▨ SUITABLE
- NONSUITABLE

RAVEN'S EYE PARTIAL  
WSA 57-10





# LITTLE DEER PARTIAL

WSA 57-11

- WSA BOUNDARY
- - - CHERRYSTEM ROAD
- ▨ SUITABLE
- NONSUITABLE

MAP F-8



## APPENDIX G

### RECREATION

#### METHODOLOGY

A variety of baseline data from various agencies and professional assumptions were used to calculate present and projected visitor use days for recreation activities. Professional judgment was used to determine portions of baseline data applicable to the planning area. Visitor use figures reflect all recreation use for a particular activity within the planning area, including use on State, private, and other Federal agency-administered public lands. Any attempt to isolate recreation use occurring on BLM-administered public land from that occurring on other lands would increase the likelihood of error and would not adequately reflect interrelationships between public and private land resources on which recreation activities are based.

Visitor use days were calculated for some recreation activities (antelope, small game, waterfowl, and sage grouse hunting; warm water fishing; and motorized boating) that remained relatively static from one alternative to the next. These activities will not be addressed further.

Following are the significant recreation resources affected by the alternatives, the source of the baseline data, and methods used to arrive at visitor use figures.

**Mule Deer Hunting.** Game management units providing hunting for mule deer within the planning area were identified through review of the Idaho Big Game Regulations. Hunter days provided in the Idaho Department of Fish and Game's Mule Deer 1981-85 provided baseline data from which present and projected use were calculated. The long-term (20-year) projection was lowered because it was felt that activity growth would taper off due to only a marginal deer population growth rate.

**Pheasant Hunting.** Pheasant hunter days and projected five-year increases for the State of Idaho were gathered from the A Plan for Managing Idaho's Upland Game Resources in 1981-1985 (Draft) prepared by the Idaho Department of Fish and Game. Professional judgment was used to determine that segment of statewide hunter days applicable to the planning area.

**Hungarian Partridge Hunting.** Partridge hunter days and projected five-year increases for the State of Idaho were gathered from the A Plan for Managing Idaho's Upland Game Resources in 1981-1985 (Draft) prepared by the Idaho Department of Fish and Game. Professional judgment was used to determine that segment of statewide hunter days applicable to the planning area.

Nature Study. Current visitor use days applicable to the planning area are based on professional judgment. Twenty-year projections listed in the Idaho Parks and Recreation Department's Idaho Outdoor Recreation Profiles 1981-1985 (Draft) were applied to indicate anticipated activity growth.

Cold Water Fishing. Current visitor use days applicable to the planning area are based on professional judgment. Twenty-year projections listed in the Idaho Parks and Recreation Department's Idaho Outdoor Recreation Profiles 1981-1985 (Draft) were applied to indicate anticipated activity growth.

ORV Use. Visitor use days are based on professional judgment. Growth estimates are based on State of Utah ORV registration data from previous years.

Float Boating. Current visitor use days applicable to the planning area are based on professional judgment. Twenty-year projections listed in the Idaho Parks and Recreation Department's Idaho Outdoor Recreation Profiles 1981-1985 (Draft) were applied to indicate anticipated activity growth.

Dispersed Recreation. Current visitor use days applicable to the planning area are based on professional judgment. Twenty-year projections listed in the Idaho Parks and Recreation Department's Draft Recreation Profiles 1981-85 were applied to indicate anticipated activity growth.

## APPENDIX H

### CULTURAL RESOURCES

#### STANDARD OPERATING PROCEDURES

The Bureau of Land Management is required to identify, evaluate, and protect cultural resources on public lands under its jurisdiction and to ensure the Bureau-initiated or Bureau-authorized actions do not inadvertently harm or destroy non-federal cultural resources. These requirements are mandated by the Antiquities Act of 1906, the Reservoir Salvage Act of 1960 as amended by P.L. 933-191, the National Environmental Policy Act of 1969, Executive Order 11593 (1971), the Archaeological Resources Protection Act of 1979, and Section 202 of the Federal Land Policy and Management Act of 1976.

Prior to commencement of any Bureau-initiated or authorized action, which involves surface disturbing activities, sale or transfer from Federal management, the BLM will conduct or cause to be conducted, a Class III (intensive) inventory as specified in BLM Manual Section 8111.4, supplementing previous surveys to locate, identify, and evaluate cultural resource properties in the affected areas. If properties that may be eligible for the National Register are discovered, the BLM will consult with the State Historic Preservation Officer (SHPO) and forward the documentation to the Keeper of the National Register to obtain a determination of eligibility in accordance with 36 CFR Part 63.

Cultural resource values discovered in a proposed work area would be protected by adhering to the following methods.

1. Redesigning or relocating the project.
2. Salvaging, through scientific methods, the cultural resource values pursuant to the SHPO agreement.
3. Should the site be determined to be of significant value, and/or the above mentioned methods are not considered adequate, the project would be abandoned.

## APPENDIX I

### SOILS

#### SOIL EROSION CALCULATION

##### Wind Erosion Equation

Erosion rates were calculated using the ARS Wind Erosion Equation described in Agricultural Research Service Special Report 22-69, A Universal Equation for Measuring Wind Erosion. This equation, developed by ARS scientists, gives an estimate of wind erosion. The equation was developed from experimental tests in the laboratory and in the field. Most of the work has been done at the ARS Wind Erosion Laboratory at Kansas State University, Manhattan, and surrounding areas. The equation is as follows:  $E = IRKFCWDB$ .

Where:

- I = soil cloddiness factor--the ratio between nonerodible and erodible soil aggregates
- R = surface cover factor
- K = ridge roughness equivalent factor--how rough or smooth the surface is
- F = soil abrasability or stability factor--the soil textural class or its inherent tendency to erode
- C = wind velocity-surface soil moisture factor--where the field is located geographically
- W = field width factor
- D = wind direction factor
- B = the wind barrier factor

##### Musgrave Equation - Water

Erosion rates were calculated using the Musgrave Equation as outlined in the BLM Manual Section 7317.22. This equation, developed by G. W. Musgrave, gives an estimate of sheet erosion by water. The equation was developed from measured erosion rates on plots with 10 percent slope, 72.6 feet slope length, and a 30-minute rainfall of 1.375 inches. The equation is as follows:

$$E = FR (S/10)^{1.35} (L/72.6)^{0.35} (P/1.375)^{1.75}$$



Where:

E = sheet erosion in tons/acre/year  
F = basic erosion rate of bare soil in tons/acre/year  
R = cover factor  
S = average slope of contributing area in percent  
L = length of longest contributing meander waterway in feet  
P = maximum 2-year frequency, 30-minute rainfall in inches

#### Existing Erosion Rates

The data gathered during the soil and vegetation inventories were used in conjunction with the nomographs and illustrations in BLM Manual 7317.22 and the ARS Special Report to solve the equations. Erosion factors were calculated for each soil map unit and a weighted average of soil erosion rates by soil map unit for each allotment was computed.

#### Changes in Erosion Rates

The main variable in the wind erosion equation that would be affected by the proposals in this RMP is the Cover Factor (R), which is the amount of vegetal cover on the ground in pounds/acre. The Soil Cloddiness Factor (I) would decrease in livestock concentration areas because of the breakdown in soil structure which would decrease the amount of nonerodible soil aggregates.

The main variable in the Musgrave Equation that would be affected is also the Cover Factor (R), however it is inversely related to the percent of ground cover. The Basic Erosion Rate (F) would increase in areas of livestock concentration because soil infiltration and permeability would decrease due to compaction.

The other variables would be essentially independent of grazing management and were considered constant for purposes of analysis. Estimated changes in cover resulting from forage allocation were based on proposed adjustments in stocking rates. A reduction in livestock numbers would increase the amount of vegetation and litter remaining on the ground.

The impacts on soil erosion due to grazing management, which includes grazing systems, range improvements, seasons of use and kinds of livestock, were based on estimated changes in vegetation production in the long term (20 years). An increase in production would increase cover and a decrease in production would decrease cover.

Changes in soil erosion due to range improvements would be dependent on the kind of treatment. For each treatment, the degree of disturbance was evaluated to estimate the decrease in ground cover (estimated to be 25 to 100 percent in the short term). The majority of areas were predicted to revegetate within approximately two years, reducing erosion rates accordingly. In the long term, reduction in cover, increased compaction, and soil disturbance in livestock concentration areas would cause the erosion rates to increase.

### Soils Map and Table

Most of the soils on public lands in the Monument Planning Area were inventoried by the Soil Conservation Service and Bureau of Land Management between 1980 and 1983. The survey shows the extent and location of the soils and general information for planning purposes. Standards and procedures were followed to meet the requirements of the National Cooperative Soil Survey. The inventory was mapped at a scale of 1:24,000. Mapping units consisted of phases of soil series and complexes. Soil boundaries were drawn on aerial photos using a stereoscope and then field checked. Individual soils were identified and described from soil pits. Percentages of each soil within a mapping unit were obtained by on-the-ground observation, photo interpretation, and some aerial observation. An unpublished soil survey report showing the boundary and extent of mapping units and detailed profile and mapping unit descriptions is available at the Shoshone District Office.

Some soils information was taken from existing surveys covering predominantly private lands (USDA, Soil Conservation Service 1975, 1981; USDA, Bureau of Chemistry and Soils 1927, 1928, 1929).

Map 14 shows the broad soil patterns of the planning area. Each soil map unit consists of one or more soils of major extent and some soils of minor extent, and is named for the major soils. The kinds of soil in one map unit may occur in the other map units, but in a different pattern. This map also shows areas with high erosion potential and agricultural potential.

Table I-1 gives soil potentials for erosion, agricultural development, and rangeland productivity. The capability class shows, in a general way, the suitability of soils for most kinds of field crops. The soils are grouped into capability classes according to their limitation if used for crops, the risk of damage when they are used, and the way they respond to treatment. Class 1 has the fewest limitations, whereas class 7 has very severe limitations. Capability class was determined as described in National Soils Handbook (USDA, SCS 1974).

TABLE I-1  
SOIL POTENTIALS

Soil	Map Unit Numbers	Erosion Potential		Ag Potential Capability Class	Rangeland Productivity Pounds/Acre/Year
		Wind	Water		
Arloval	3	Moderate-High	None-Slight	2, 3	1100 - 1500
Banbury	8, 13, 14	Slight-Moderate	Slight-Very High	4, 6	350 - 550
Bancroft	12	Slight	Slight-High	3, 4	900 - 1300
Carey Lake	1	Slight-Moderate	None-Slight	3	900 - 1300
Cinderhurst	18	None-Slight	None-Slight	7	250 - 350
Cox	11	Moderate	Slight-Moderate	4, 6	350 - 550
Decker	3	Moderate	None-Slight	2, 3	1100 - 1500
Declo	2, 4	Moderate	None-Slight	2, 3, 4	550 - 850
Dearhorn	10	Moderate	Slight-Moderate	3, 4, 6	650 - 950
Feltham	4, 5	High	None-Moderate	3, 4, 6	500 - 800
Gooding	17	Slight-Moderate	Slight-High	3, 4	450 - 750
Kecko	7	Moderate-High	None-Moderate	2, 3, 4	500 - 850
Little Wood	1	None-Slight	None-Slight	4	800 - 1200
McBiggam	12	Slight	Slight-Moderate	3	1100 - 1500
McCain	13, 14, 16	Moderate	Slight-High	3, 4, 6	550 - 850
McCarey	12	Slight-Moderate	Slight-High	3, 4, 6	700 - 1100
Minidoka	15	Moderate	Slight-High	3, 4, 6	550 - 850
Minveno	9, 15	Moderate	Slight-Very High	4, 6	350 - 550
Paulville	2, 8, 9, 13	Slight-Moderate	None-Moderate	2, 3	550 - 1200
Portneuf	6, 15	Slight-Moderate	Slight-Moderate	2, 3	550 - 850
Power	16, 17	Slight	Slight-Moderate	2, 3	550 - 850
Quincy	5, 6, 7	High-Very High	Slight-Moderate	4, 6	400 - 600
Rehfield	10, 11	Moderate-High	Slight-Moderate	2, 3	600 - 950
Sidlake	8	Moderate-High	Slight-Moderate	3, 4, 6	500 - 850
Snowmore	9	Slight-Moderate	Slight-Moderate	3, 4, 6	500 - 850
Trevino	18	Moderate	Slight-Very High	4, 6, 7	300 - 500
Vining	5, 7	Moderate-High	Slight-Moderate	3, 4, 6	500 - 800
Wodskow	3	Moderate	None-Slight	2	900 - 1300

## APPENDIX J

### ECONOMIC CONDITIONS

#### LIST OF ASSUMPTIONS

1. County: Minidoka
2. Crop Distribution:

Alfalfa Hay	33%
Barley	33%
Potatoes	34%
3. Total Acreage of Farm: 210 acres
4. Will water be pumped? Yes
5. Yearly per acre cost of pumping: \$51.08/acre
6. Irrigation system Cost: \$53.02/acre
7. SCS soil type percentages: Type 2 = 5%; Type 3 = 15%; Type 4 = 80%
8. Wage rate: \$3.35/hour
9. Annual interest on production credit: 14%
10. Term of production credit loan: 12 months
11. Taxes and overhead: 3% of costs
12. Revenue Adjustment Factor: 10% of total revenue
13. Value of land: \$25/acre
14. Annual payments on land: \$702.86
15. Fiscal Year 84 Normalized Prices

TABLE J-1

## SUMMARY TABLE BY CROP AND WEIGHTED VALUES

Crop	Percent Distribution	Total Revenue	Total Production Costs	Net Revenue
Alfalfa Hay (per acre)	33	15,677.48 226.23	17,494.87 252.45	- 1,187.39 - 26.23
Barley (per acre)	33	10,446.98 150.75	16,989.15 245.15	- 6,542.17 - 94.40
Potatoes (per acre)	34	83,143.23 1,164.47	72,978.95 1,022.11	10,164.28 142.36
Farm Totals	100	109,267.68	107,462.97	1,804.71

TABLE J-2

## FARM BUDGET

Operation or Item	Per Acre				Total
	Times Over	Costs or Receipts	Unit Total	Subtotal	
TOTAL REVENUE: ALFALFA HAY	3.38 Ton at	67.03/ton		226.23	\$ 15,677.48
PRODUCTION COSTS					
Establishment - Alfalfa	1.00 at	14.88/acre	14.88		
Corrugate	1.00 at	5.00/acre	5.00		
Fertilizing - Broadcast P205	1.00 at	3.75/acre	3.75		
	90.00 unit at	0.22/unit	19.80		
Spraying - Ground Rig	1.00 at	4.50/acre	4.50		
Furagon, Cygon, Thiodon	1.50 pt at	6.25/acre	9.38		
Swath - Alfalfa	3.00 at	8.00/acre	24.00		
Bale - Alfalfa	3.38 ton at	7.50/ton	25.31		
Haul and Stack - Alfalfa	3.38 ton at	5.00/ton	16.88		
(Labor [included above])			8.61)		
Subtotal Production Costs				123.49	
Taxes and Overhead (Farm)	3 percent of Production Costs			3.70	
Inputted Per Acre Pumping Cost			51.08		
Inputted Per Acre Irrigation Cost			53.02		
Subtotal Water Costs				104.10	
Interest on Production Cost	14 percent for 12 months			17.81	
Annual Land Payment				3.35	
TOTAL COSTS				252.45	\$ 17,494.87
NET REVENUE: ALFALFA HAY				- 26.23	\$- 1,817.39
REVENUE ADJUSTMENT	10 percent of Total Revenue			22.62	\$ 1,567.75
ADJUSTED NET REVENUE				- 3.60	\$ - 249.65
-----					
TOTAL REVENUE: BARLEY	56.25 bu at	2.68/bu		150.75	\$ 10,446.98
PRODUCTION COSTS:					
Disc and Harrow	1.00 at	7.00/acre	7.00		
Seed - Barley	125.00 lbs at	0.13/lb	16.25		
Planting - Small Grain	1.00 at	7.70/acre	7.70		
Fertilizing - Broadcast N	1.00 at	3.75/acre	3.75		
	85.00 unit at	0.31/unit	26.35		
Spraying - Ground Rig	1.00 at	4.50/acre	4.50		
2,4-D	2.00 pt at	1.37/pt	2.74		
P205	40.00 unit at	0.22/unit	8.80		
Combine - Small Grains	1.00 at	25.00/acre	25.00		
Haul - Barley	56.25 bu at	0.12/bu	6.75		
Storage - Small Grains, 6 months	56.25 bu at	0.15/bu	8.44		
(Labor [included above])			5.62)		
Subtotal Production Costs				117.28	
Taxes and Overhead (Farm)	3.00 percent of Production Costs			3.52	
Inputted Per Acre Pumping Cost			51.08		
Inputted Per Acre Irrigation Cost			53.02		
Subtotal Water Costs				104.10	
Interest on Production Cost	14 percent for 12 months			16.91	
Annual Land Payment				3.35	
TOTAL COSTS				245.15	\$ 16,989.15
NET REVENUE: BARLEY				- 94.40	\$- 6,547.17
REVENUE ADJUSTMENT	10 percent of Total Revenue			15.08	\$ 1,044.70
ADJUSTED NET REVENUE				- 79.33	\$- 5,497.47
-----					

TABLE J-2 (Cont.)

## FARM BUDGET

Operation or Item	Per Acre				Total
	Times Over	Costs or Receipts	Unit Total	Subtotal	
TOTAL REVENUE: POTATOES	234.30 CWT	at	4.97/CWT	1,164.47	\$ 83,143.23
PRODUCTION COSTS					
Plow Stubble (Moldboard)	1.00	at	13.50/acre	13.50	
Disc and Harrow	2.00	at	7.00/acre	14.00	
Chisel and Mark	1.00	at	8.00/acre	8.00	
Planting - Potatoes	1.00	at	48.00/acre	48.00	
Seed - Potatoes	20.00 CWT	at	9.00/CWT	180.00	
Fertilizing - Broadcast	4.00	at	3.75/acre	15.00	
N	250.00 unit	at	0.31/unit	77.50	
P205	120.00 unit	at	0.22/unit	26.40	
K20	100.00 unit	at	0.17/unit	16.90	
Spraying - Ground Rig	1.00	at	4.50/acre	4.50	
Sencor	1.00 lb	at	9.83/lb	9.83	
Fungicide (2 Applications)	6.00 pt	at	3.00/pt	18.00	
Zinc	10.00 unit	at	1.00/unit	10.00	
Dyston or Temik	20.00 lb	at	2.20/lb	44.00	
Side Dress	1.00	at	8.50/acre	8.50	
Monitor	1.00	at	16.00/acre	16.00	
Vine Kill	1.00	at	11.00/acre	11.00	
Cultivating - Potatoes	3.00	at	8.00/acre	24.00	
Spraying - Aerial	4.00	at	7.50/acre	30.00	
Dig and Load - Potatoes	234.30 CWT	at	0.45/CWT	105.43	
Haul - Potatoes	234.30 CWT	at	0.20/CWT	46.86	
Storage - Potatoes	234.30 CWT	at	0.22/CWT	51.55	
(Labor [included above]				27.80)	
Subtotal Production Costs				778.97	
Taxes and Overhead (Farm)	3.00 percent of Production Costs			23.37	
Inputted Per Acre Pumping Cost				51.08	
Inputted Per Acre Irrigation Cost				53.02	
Subtotal Water Costs				104.10	
Interest on Production Cost	14 percent for 12 months			112.33	
Annual Land Payment				3.35	
TOTAL COSTS				1,022.11	\$ 72,978.95
NET REVENUE: POTATOES				142.36	\$ 10,164.28
REVENUE ADJUSTMENT	10 percent of Total Revenue			116.45	\$ 8,341.32
ADJUSTED NET REVENUE				258.80	\$ 18,478.60

TABLE J-3

## DETAILED COMPARISON OF EFFECTS OF THE ALTERNATIVES

Element	Alternative A	Alternative B	Alternative C	Alternative D	Sub-Alternative D
<u>GRAZING-RELATED</u>					
Annual Income Change	- \$ 6,100	+ \$1,600,000	+ \$1,400,000	- \$1,200,000	- \$1,800,000
Employment Change	---	+ 86	+ 78	- 65	- 102
Range Improvement Costs					
Installation Costs	---	\$2,522,000	\$1,607,900	\$732,500	---
Income	- 0-	\$1,500,000	\$900,000	\$400,000	---
Employment	---	65	42	19	---
Maintenance	---	\$42,100	\$33,500	\$17,800	---
Income	---	\$24,200	\$19,200	\$9,800	---
Employment	---	1	1	0	---
Grazing Fee Changes	- \$ 656	+ \$104,416	+ \$89,276	- \$77,572	- \$195,784
Range Improvement Fund	- 328	+ 52,208	+ 44,638	- 38,786	- 97,892
Federal Treasury	- 246	+ 39,156	+ 33,479	- 29,090	- 73,419
State of Idaho	- 82	+ 13,052	+ 11,159	- 9,696	- 24,473
Total Capital Value Change					
High	- \$81,000	+ \$13,100,000	+ \$11,700,000	- \$9,700,000	- \$24,500,000
Low	- \$18,000	+ \$ 2,900,000	+ \$ 2,600,000	- \$2,200,000	- \$ 5,400,000
Ranches Threatened	0	0	0	75	138
<u>RECREATION-RELATED</u>					
Annual Income Change	+ \$2,000,000	+ \$1,900,000	+ \$2,000,000	+ \$2,100,000	+ \$2,100,000
Employment Change	+ 202	+ 185	+ 202	+ 206	+ 206
<u>CROP AGRICULTURE RELATED</u>					
Annual Income Change	---	\$21,700,000	\$13,400,000	\$1,600,000	\$1,600,000
Annual Employment Change	---	1,242	768	90	90
<u>LAND TRANSFER BENEFIT</u>	\$345,800	\$3,506,900	\$2,587,200	\$130,500	\$130,500
<u>FIRE SUPPRESSION COSTS (Annually)</u>	\$306,180	\$308,400	\$316,180	\$355,180	\$475,160
<u>SUMMARY TOTALS</u>					
Total Annual Income Change					
(Grazing, Recreation and Crop)	+ \$2,000,000	+ \$25,200,000	+ \$16,800,000	+ \$2,500,000	+ \$1,900,000
Total Employment Change					
(Grazing, Recreation and Crop)	+ 202	+ 1,513	+ 1,048	+ 231	+ 194
Annual Costs	\$306,180	\$476,600	\$430,075	\$408,905	\$475,160
(Range Improvement and Fire)					